

WHAT IS CLAIMED IS:

1. An improved air filter structure, comprising: a container for containing a liquid;
a housing for covering the top of said container; an air passage for letting air flow
in and out of said container; a motor being installed in said housing with its core
5 axle facing the liquid in said container, and said core axle further comprising a fan,
a stirring rod disposed at the bottom of said fan and dipped into the liquid in said
container, and a control switch for controlling the rotation of said motor; wherein
a liquid selected from the collection of a plant liquid and an aromatic liquid being
disposed in said container, and said fan producing an air circulation to bring the
10 air from the outside of said housing into said container, and discharge the air in
the container out of said housing by said air circulation, thereby the air outside
said housing being circulated in and out of said container and liquid molecules
contained in said container being discharged quickly to fill a room with fragrance,
and while said fan producing an air circulation, said stirring rod stirring the liquid
15 in said container as said fan rotates, and thus improving the activity of liquid
molecules to accelerate the dispersion of liquid molecules and the contact of air
entering said container from the outside of said housing with the liquid surface
and attach the dust originally mixed in the air onto the liquid surface, and the dust
sinking to the bottom of said container due to gravitation, and thus achieving the
20 effect of filtering the impurities in the air, characterized in that:
a plurality of sensors, being disposed at appropriate positions of said housing and
coupled to a control switch; thereby when a person approaching the sensing range
of said sensor, said sensor turning on said control switch to start said motor, and
thus achieving the effect of filtering air.
- 25 2. The improved air filter structure of claim 1, wherein said fan is a disc structure
having a vane at its top, and said stirring rod comprises a flange disposed at the
top of said stirring rod and coupled to the bottom of said fan, and the disc
structure of said fan and the flange of said stirring rod respectively have a latch
groove and a latch member to extend into and fix said stirring rod into the latch
30 groove of said fan and engage said latch member with said latch groove by a

rotation to couple said stirring rod and said fan.

3. The improved air filter structure of claim 1, wherein said container is made of a transparent material.
4. The improved air filter structure of claim 1, wherein said motor is coupled to a power cable of said control switch to electrically connect an air filter.
5. The improved air filter structure of claim 1, wherein said housing has a space for accommodating a battery, and said motor is coupled to a power cable of said control switch to drive the operation of said air filter by a battery.
6. The improved air filter structure of claim 1, wherein said sensor is a photoelectric cell which emits an infrared ray to sense and determine an object falling into a sensing range of said sensor.